

CLAIMS

1. An intra-aortic balloon catheter comprising
a catheter tube having a fluid flow channel for
5 balloon expansion and a blood flow channel for blood
pressure measurement, and

a balloon attached to a distal end portion of said
catheter tube and having an expansion/contraction portion
to be expanded and contracted as a result of flowing a
10 fluid in and out through said fluid flow channel;

wherein

said balloon is joined with said catheter tube at a
distal end portion and proximal end portion of said
balloon,

15 a blood inlet is formed on said catheter tube, so
that inside of said blood flow channel communicates with
outside of said catheter tube, and

said blood inlet positions on the proximal end side
of a boundary with said expansion/contraction portion on
20 the proximal end portion of said balloon.

2. The intra-aortic balloon catheter as set
forth in claim 1, wherein said blood inlet positions on
the proximal end side by leaving a distance of 3 to 300
25 mm from the boundary with said expansion/contraction

portion on the proximal end portion of said balloon.

3. The intra-aortic balloon catheter as set forth in claim 1, wherein an opening area of said blood
5 inlet is 0.2 to 3 mm².

4. The intra-aortic balloon catheter as set forth in claim 1, wherein

said catheter tube comprises an outer tube and an
10 inner tube, wherein at least a part of an outer surface of the inner tube is joined with an inner surface of said outer tube along with the axial direction, so that said fluid flow channel is formed inside of said outer tube, and said blood flow channel is formed in the inner tube;

15 a distal end of said inner tube protrudes to the distal end side from a distal end of said outer tube;

a distal end portion of said balloon is joined with the distal end portion of said inner tube, and a proximal end portion of said balloon is joined with the distal end
20 portion of said outer tube; and

said blood inlet is formed at a joined portion of said inner tube and outer tube, and said outer tube and inner tube are joined over all circumference of an opening rim of said blood inlet.

5. The intra-aortic balloon catheter as set forth in claim 1, wherein

said catheter tube comprises an outer tube and an inner tube arranged inside of said outer tube along with the axial direction, so that said fluid flow channel is formed inside of said outer tube, and said blood flow channel is formed inside of the inner tube;

a distal end of said inner tube protrudes to the distal end side than a distal end of said outer tube;

10 a distal end portion of said balloon is joined with a distal end portion of said inner tube, and a proximal end portion of said balloon is joined with a distal end portion of said outer tube;

a recess is formed on a part of the outer surface of said outer tube;

said inner tube is exposed to the outside of said outer tube at said recess; and

said blood inlet is formed on said inner tube positioning inside of said recess.

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6. The intra-aortic balloon catheter as set forth in claim 5, wherein:

said inner tube comprises a proximal side inner tube and a distal side inner tube separated from the proximal side tube;

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a distal end side opening of said proximal side inner tube positions inside of said recess, and a proximal end side opening of said distal side inner tube positions inside of said recess;

5 the proximal end side opening and the distal end side opening face to each other by leaving a predetermined distance inside of said recess; and

the distal end side opening of said proximal side inner tube composes said blood inlet.

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7. The intra-aortic balloon catheter as set forth in claim 1, wherein:

said catheter tube comprises a two-lumen tube and a balloon supporting tube;

15 a first lumen composing said fluid flow channel and a second lumen composing said blood flow channel are formed in said two-lumen tube along with the axial direction;

20 a distal end portion of said two-lumen tube is joined with said balloon supporting tube;

a distal end portion of said balloon supporting tube is joined with a distal end portion of said balloon, and a distal end portion of said two-lumen tube is joined with a proximal end portion of said balloon; and

25 said blood inlet is formed on a sidewall of said

two-lumen tube.

8. The intra-aortic balloon catheter as set forth in claim 7, wherein a third lumen is formed inside
5 of said balloon supporting tube along with the axial direction, and the third lumen communicates with said second lumen.

9. The intra-aortic balloon catheter as set
10 forth in claim 1, configured that, when said balloon is positioned in an aorta, said blood inlet positions in a blood vessel and a proximal end opening of said blood flow channel positions outside of the body.

15 10. The intra-aortic balloon catheter as set forth in claim 1 used by being inserted from the arm artery.